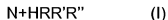


AMENDMENTS TO THE CLAIMS:

Claims 1-56. (Canceled).

Claim 57. (Previously Presented): A method for using an ionic liquid in an application selected from the group consisting of a solvent for enzyme-catalyzed reactions, a solvent for organic synthesis, a matrix in matrix-assisted laser desorption/ionisation (MALDI) mass spectrometry, a solvent for extraction, catalysis or liquefaction, a nuclear fuel reprocessing medium, a fuel cell additive, an electrochemical application, pervaporation, drug delivery, lubrication, hydraulics, adhesives, sensors, biocides, and chromatographic media, the ionic liquid comprising an anion and a cation wherein the cation is a tertiary ammonium ion of the formula (I)



wherein:

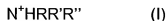
R is an alkyl group substituted with one or more hydroxy groups;

R' and R'' are independently alkyl or substituted alkyl groups optionally substituted with one or more substituents selected from the group consisting of a nitrogen-containing functional group, an alkoxy group, and a hydroxy group; the nitrogen-containing functional group selected from the group consisting of nitrile, nitro, and amino; the substituted alkyl optionally comprising one or more ether linkages; and

the anion is selected from the group consisting of a nitrate, sulphate, phosphate, carbonate, sulphonate, and carboxylate.

Claim 58. (Previously Presented): A method for carrying out an enzyme-catalyzed reaction comprising:

i.) providing a liquid reaction medium which contains an ionic liquid comprising an anion and a cation wherein the cation is a tertiary ammonium ion of the formula (I)



wherein:

R is an alkyl group substituted with one or more hydroxy groups;

R' and R'' are independently alkyl or substituted alkyl groups optionally substituted with one or more substituents selected from the group consisting of a

nitrogen-containing functional group, an alkoxy group, and a hydroxy group; the nitrogen-containing functional group selected from the group consisting of nitrile, nitro, and amino; the substituted alkyl comprising one or more ether linkages; and

the anion is selected from the group consisting of a nitrate, sulphate, phosphate, carbonate, sulphonate, and carboxylate;

ii.) providing in the liquid reaction medium an enzyme and a substrate for the enzyme; and

iii.) allowing reaction of the substrate to occur.

Claim 59-61. (Canceled).

Claim 62. (Previously Presented): The method of claim 57, wherein the ionic liquid has a melting point below 25 °C, a viscosity of less than 500 centipoise, and contains less than 1% water.

Claim 63. (Previously Presented): The method of claim 57, wherein R of the ionic liquid is a hydroxyalkyl having 1, 2, 3, 4, 5 or 6 C atoms.

Claim 64. (Previously Presented): The method of claim 63, wherein the hydroxyalkyl has a hydroxyl moiety on its free, terminal carbon.

Claim 65. (Previously Presented): The method of claim 57, wherein the cation of the ionic liquid is selected from the group consisting of an N,N-dimethylethanolammonium ion, a triethanolammonium ion, and an N-butyldiethanolammonium ion.

Claim 66. (Previously Presented): The method of claim 57, wherein the anion of the ionic liquid is selected from the group consisting of bis(trifluoromethylsulphonyl)imide, formate, butanoate, pentanoate, hexanoate, heptanoate, octanoate, nonanoate, decanoate, glycolate, crotonate, pyruvate, succinate, and phenylacetate.

Claim 67. (Currently Amended): The method of claim 57, wherein the ionic liquid is selected from the group consisting of:

N-butyldiethanolammonium formate;

N-butyldiethanolammonium acetate;

N-butyldiethanolammonium propionate;

N-butyl diethanol ammonium butanoate;
N-butyl diethanol ammonium pentanoate;
N-butyl diethanol ammonium hexanoate;
N-butyl diethanol ammonium heptanoate;
N-butyl diethanol ammonium octanoate;
N-butyl diethanol ammonium nonanoate;
N-butyl diethanol ammonium decanoate;
N-butyl diethanol ammonium benzoate;
N-butyl diethanol ammonium benzenedicarboxylate;
N-butyl diethanol ammonium benzenetricarboxylate;
N-butyl diethanol ammonium benzenetetracarboxylate;
N-butyl diethanol ammonium chlorobenzoate;
N-butyl diethanol ammonium fluorobenzoate;
N-butyl diethanol ammonium pentachlorobenzoate;
N-butyl diethanol ammonium pentafluorobenzoate;
N-butyl diethanol ammonium glycolate;
N-butyl diethanol ammonium pantothenate;
N-butyl diethanol ammonium mandelate;
N-butyl diethanol ammonium crotonate;
N-butyl diethanol ammonium malate;
N-butyl diethanol ammonium pyruvate;
N-butyl diethanol ammonium succinate;
N-butyl diethanol ammonium citrate;
N-butyl diethanol ammonium phenylacetate;
N-butyl diethanol ammonium oxalate;
N-butyl diethanol ammonium bis(trifluoromethylsulphonyl)imide;
N-butyl diethanol ammonium carbonate;
N-butyl diethanol ammonium hydrogen carbonate;
N-butyl diethanol ammonium sulphate;
N-butyl diethanol ammonium hydrogen sulphate;

N-butyl-diethanolammonium methanesulphonate;
N-butyl-diethanolammonium trifluoromethanesulphonate;
N-butyl-diethanolammonium ethylenediaminetetraacetate;
N-butyl-diethanolammonium hexafluorophosphate;
N-butyl-diethanolammonium tetrafluoroborate;
N-butyl-diethanolammonium trifluoroacetate;
N-butyl-diethanolammonium pentafluoropropanoate;
N-butyl-diethanolammonium heptafluorobutanoate;
N,N-dimethylethanolammonium formate;
N,N-dimethylethanolammonium acetate;
N,N-dimethylethanolammonium propionate;
N,N-dimethylethanolammonium butanoate;
N,N-dimethylethanolammonium pentanoate;
N,N-dimethylethanolammonium hexanoate;
N,N-dimethylethanolammonium heptanoate;
N,N-dimethylethanolammonium octanoate;
N,N-dimethylethanolammonium nonanoate;
N,N-dimethylethanolammonium decanoate;
N,N-dimethylethanolammonium benzoate;
N,N-dimethylethanolammonium benzenedicarboxylate;
N,N-dimethylethanolammonium benzenetricarboxylate;
N,N-dimethylethanolammonium benzenetetracarboxylate;
N,N-dimethylethanolammonium chlorobenzoate;
N,N-dimethylethanolammonium fluorobenzoate;
N,N-dimethylethanolammonium pentachlorobenzoate;
N,N-dimethylethanolammonium pentafluorobenzoate;
N,N-dimethylethanolammonium glycolate;
N,N-dimethylethanolammonium pantothenate;
N,N-dimethylethanolammonium mandelate;
N,N-dimethylethanolammonium crotonate;
N,N-dimethylethanolammonium malate;

N,N-dimethylethanolammonium pyruvate;
N,N-dimethylethanolammonium succinate;
N,N-dimethylethanolammonium citrate;
N,N-dimethylethanolammonium phenylacetate;
N,N-dimethylethanolammonium oxalate;
N,N-dimethylethanolammonium bis(trifluoromethylsulphonyl)imide;
N,N-dimethylethanolammonium carbonate;
N,N-dimethylethanolammonium hydrogen carbonate;
N,N-dimethylethanolammonium sulphate;
N,N-dimethylethanolammonium hydrogen sulphate;
N,N-dimethylethanolammonium methanesulphonate;
N,N-dimethylethanolammonium trifluoromethanesulphonate;
N,N-dimethylethanolammonium ethylenediaminetetraacetate;
N,N-dimethylethanolammonium hexafluorophosphate;
N,N-dimethylethanolammonium tetrafluoroborate;
N,N-dimethylethanolammonium trifluoroacetate;
N,N-dimethylethanolammonium pentafluoropropanoate; and
N,N-dimethylethanolammonium heptafluorobutanoate.

Claim 68. (Previously Presented): The method of claim 58, wherein the ionic liquid has a melting point below 25 °C, a viscosity of less than 500 centipoise, and contains less than 1% water.

Claim 69. (Previously Presented): The method of claim 58, wherein the cation of the ionic liquid is selected from the group consisting of an N,N-dimethylethanolammonium ion, a triethanolammonium ion, and an N-butyldiethanolammonium ion.

Claim 70. (Previously Presented): The method of claim 58, wherein the anion of the ionic liquid is selected from the group consisting of bis(trifluoromethylsulphonyl)imide, formate, butanoate, pentanoate, hexanoate, heptanoate, octanoate, nonanoate, decanoate, glycolate, crotonate, pyruvate, succinate, and phenylacetate.